

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
3 June 2004 (03.06.2004)

PCT

(10) International Publication Number
WO 2004/047228 A1

(51) International Patent Classification⁷: **H01R 12/16**,
G06K 7/00

[JP/JP]; Corpo-Sunrise 101, 2-31, Fukami-nishi, 1-chome,
Yamato-shi, Kanagawa 242-0018 (JP).

(21) International Application Number:
PCT/US2003/036952

(74) Agent: CALDWELL, Stacey, E.; Molex Incorporated,
2222 Wellington Court, Lisle, IL 60532 (US).

(22) International Filing Date:
19 November 2003 (19.11.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,
SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2002-334972 19 November 2002 (19.11.2002) JP

(71) Applicant (*for all designated States except US*): MOLEX
INCORPORATED [US/US]; 2222 Wellington Court,
Lisle, IL 60532 (US).

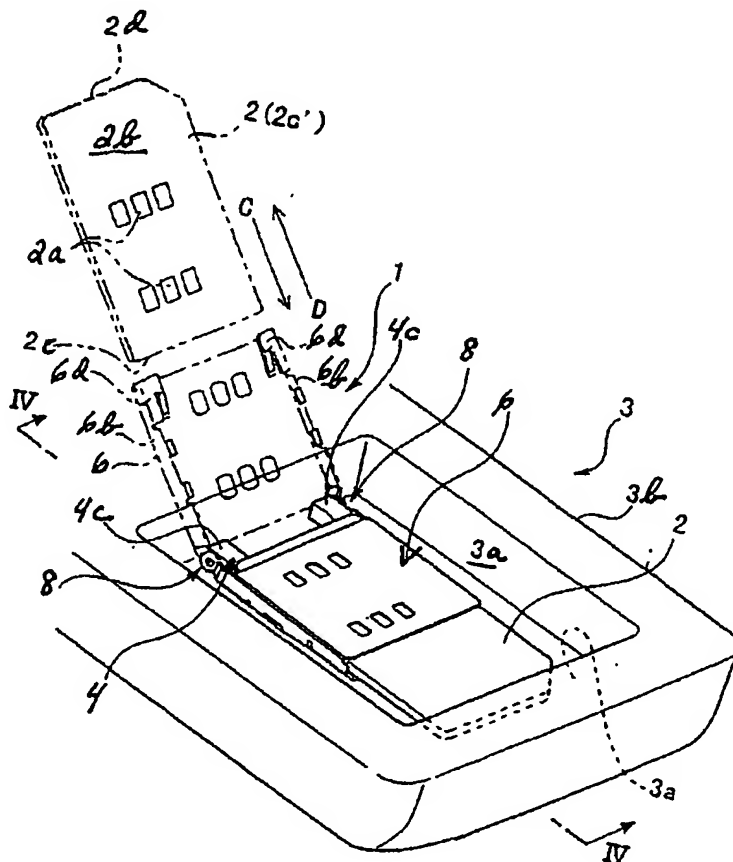
(84) Designated States (*regional*): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): TOSHIHISA, Hirata

[Continued on next page]

(54) Title: IMPROVED MEMORY CARD CONNECTOR



(57) Abstract: A memory card connector is provided for receiving a memory card having a plurality of conductive contacts. The connector includes an insulating housing mounting a plurality of conductive terminals. A cover has a receptacle for receiving the memory card. A pivot-detent mechanism is operatively associated between the cover and the housing and movably mounts the cover to the housing. The mechanism includes a pivot device engageable between the cover and the housing to mount the cover for pivotal movement between an open position to allow the memory card to be received on the cover and a closed position bringing the contacts of the memory card into engagement with the terminals on the housing. The mechanism includes a detent device engageable between the cover and the housing to allow the cover to slidably move from the closed position to a latched position. A portion of the pivot device provides a dual function of forming a portion of the detent device.

WO 2004/047228 A1



SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Date of publication of the amended claims: 19 August 2004

Published:

- with international search report
- with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

AMENDED CLAIMS

[received by the International Bureau on 28 May 2004 (28.05.04); original claims 1, 2 amended ; amended claims 10-15 were renumbered to claims 3-8 ; original claims 3-9 cancelled]

2 1. A memory card connector (1) for receiving a memory card (2) having a plurality of conductive contacts (2a), comprising:

4 an insulating housing (4);

 a plurality of conductive terminals (16) mounted on the housing;

6 a cover (6) having receptacle means (6f) for receiving the memory card;

and

8 a pivot-detent mechanism (8) operatively associated between the cover and the housing and movably mounting the cover to the housing, including

10 pivot means (12,18) comprising a pivot socket (18) in one of the cover (6) and housing (4) for receiving a pivot projection (12) on the other of the cover and the housing, engageable between the cover (6) and the housing (4) to mount the cover for pivotal movement between an open position to allow the memory card (2) to be received on the cover and a closed position bringing the contacts (2a) of the memory card into engagement with the terminals (16) on the housing, and

16 detent means (12,20) including a detent socket (20) separate from and independent of said pivot socket (18) for receiving said pivot projection, engageable between the cover and the housing (4) to allow the cover (6) to slidably move from said closed position to a latched position, a portion (12) of said pivot means (12,18) providing a dual function of forming a portion (12) of said detent means (12,20),

20 wherein said housing (4) is generally flat and mounts the terminals (16) in a generally side-by-side array and includes a pair of mounting portions (4c) at opposite sides thereof, and said cover is generally flat and the receptacle means includes a mouth (6f) at one end of the cover for insertion of the memory card (2) thereinto, the cover having a pair of spring arms (10) at an opposite end thereof and juxtaposed alongside said pair of mounting portions (4c) of the housing, said pivot-detent mechanism (8) being operatively associated between the mounting portions (4c) of the housing and the spring arms (10) of the cover.

2. The memory card connector of claim 1 wherein the detent sockets (20) define the latched position of the cover.

3. The memory card connector of claim 1 wherein said detent projections (12) are generally cone-shaped.

4. The memory card connector of claim 1 wherein said detent projections (12) are flat, round and chamfered about the periphery thereof.

5. The memory card connector of claim 1 wherein said cover (6) is stamped and formed of sheet metal material, and said spring arms (10) are resilient to self-bias the pivot projections (12) thereon into the pivot sockets (18) and the detent sockets (20) in the mounting portions (4c) of the housing (4).

2 6. The memory card connector of claim 5 wherein said cover (6) includes a cover plate (6a) spanning an area between said spring arms (10) and a pair of side walls (6b) defining opposite sides of said receptacle means (6f).

2 7. The memory card connector of claim 6, including latch means (6c,24a) between the side walls (6b) of the cover (6) and opposite sides of the housing (4) and automatically engageable when the cover slides to said latched position.

2 8. The memory card connector of claim 7 wherein said latch means comprises latching flanges (6c) formed inwardly from said side walls (6b) of the cover (6) and slidable under latching flanges (24a) at opposite sides of the housing (4) when the
4 cover slides to said latched position.